

# OPTiSound™ 82C933

# Integrated Plug-and-Play 3D Audio Processor

### **Technical Brief**

### Introduction

The OPTiSound™ 82C933 is a single chip Plug-and-Play ISA audio processor that provides uncompromising integrated 3-D audio that maintains compatibility with the currently installed base of legacy applications. By meeting PC 97 and WHQL specifications, providing Sound Blaster™ Pro compatibility, and offering Direct Sound™ support, the OPTiSound 82C933 delivers the highest assurance of overall system and OS compatibility. The OPTiSound 82C933 is an ideal ISA audio solution for desktop, mobile, and embedded applications requiring a high level of integration, and exceptional sound quality.

ECTIVA's integrated third generation 16-bit Sigma-Delta codec provides high quality analog-to-digital and digital-to-analog conversions. The Sigma-Delta codec is further integrated with a low distortion complex mixer featuring 3-D audio expansion. The OPTiSound 82C933 produces a spatial or widened stereo image from ordinary left and right channel inputs, without any initial encoding of input signals.

In addition to the 22 voice OPTiFM™ synthesis, the 82C933 architecture also provides upgradeability through audio software enhancements, including wavetable and 3D expansion—ideally suited for multimedia audio and gaming applications.

The OPTiSound 82C933 is an ideal building block for advanced audio solutions. The MPU-401 port supports external MIDI devices, such as hardware wavetable and keyboard interfaces. One asynchronous I/O port supports Zoom Video, hardware wavetable, speaker phone, modem interface, Digital CD-In, and DSP data.

The high level of integration of the OPTiSound family eliminates the requirement for additional memory, codecs, 3D, and most discrete components; which minimizes the design effort as well as the total cost of implementation. The 82C933 is offered in two pinouts optimized for system board (MB Mode) or ISA addin card (AD Mode) applications.

The combination of solid Sound Blaster Pro compatibility with integrated 3D makes the OPTiSound 82C933 the ideal solution for desktop, mobile, and embedded applications requiring a highly integrated cost-effective audio solution.

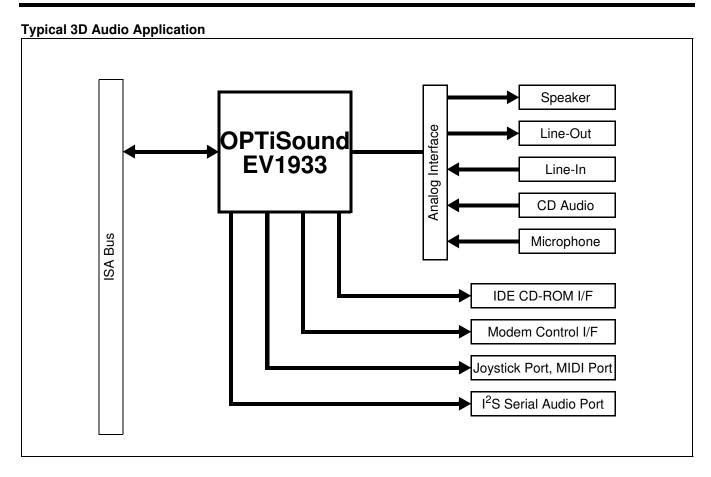
## **Applications**

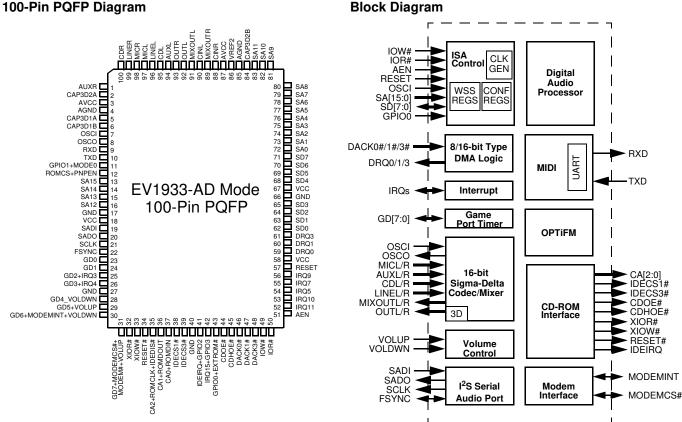
- · Desktop Multimedia Audio
- · Mobile and Embedded Audio
- · Stand-alone & Internet Gaming
- Music Composition & Synthesis

#### **Features**

- Integrated sound controller compatible with:
  - Sound Blaster Pro™
  - Ad Lib™
  - Microsoft<sup>®</sup> Windows<sup>™</sup> Sound System<sup>™</sup>
- Microsoft PC-97 compliant
- Built-in high-quality 22 voice, 52 operator, OPTiFM™ music synthesizer with enhanced bass
- Built-in 7-channel mixer: five stereo, two mono
- Built-in 16-bit sigma-delta stereo codec
- ISA Plug and Play Specification 1.0a compatible, supports a maximum of six logical devices:
  - Sound Blaster Pro, Windows Sound System, FM synthesis
  - MPU-401 MIDI interface
  - CD-ROM interface
  - Joystick/game port
  - Modem interface
  - 82C933 control
- Supports external serial EEPROM (optional)
- · External modem chipset interface
- Full duplex operation: record and playback simultaneously using two 8- or 16-bit DMA channels
- Supports IMA ADPCM, μ-law, A-law decompression
- · 8- or 16-bit stereo sound data up to 48KHz stereo
- Supports 16-bit Type F DMA playback, accelerates telephony-audio applications
- · Digital joystick interface support, improves responsiveness
- I<sup>2</sup>S serial interface supports Zoom Video Port, wavetable controller and modem chipset
- Direct Sound™ interface support
- Power-down modes
- · Silence mode to turn-off all audio functions
- Hardware and software volume control via push-button interface
- 100-pin PQFP (Plastic Quad Flat Pack)
- 100-pin TQFP (Thin Quad Flat Pack)







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## **Signal Description**

Signals	Signal Name	Pin	Signal Description	
CAP3D1A CAP3D1B CAP3D2A CAP3D2A CAP3D2B         5 3D Depth Filter/Node 1B 3D Depth Filter/Node 2B           ISA Bus Signats         IVO Write Command           IOW#         49 49 49 49 49 40 I/O Write Command           IOR#         50 49 49 49 49 49 49 49 49 40 40 40 40 40 40 40 40 40 40 40 40 40	_	<u> </u>	· ·	
CAP3D1B CAP3D2A CAP3D2B         6 3 D Depth Filter/Node 2A 3D Depth Filter/Node 2B           ISA Bus Signats           IOW#         49         I/O Write Command           IOR#         50         I/O Read Command           AEN         51         DMA Address Enable           RESET         57         System Reset Input           SA[15:0]         13:16, 83:72 through 0           SD[7:0]         71:68, 65:62           DACK0#         46 8-Bit DMA Acknowledge Bits 0, 1, and 3           DACK1# 47 DACK1# 47 DACK1# 47 DACK1# 48         BARD ACKNOWLEDGE BITS 0, 1, and 3           DRQ0         59 B-Bit DMA Request Bits 0, 1, and 3           DRQ1         60 DRQ3         61           EXTROM#         External EEPROM Enable Input           IRQ5         54 Interrupt Request Bits 5, 7, and 9 through 11: IRQ7 and IRQ9-11 are bidirectional for WSS auto interrupt determination.           IRQ1         53 Incorrectional for WSS auto interrupt determination.           IRQ15         42 Interrupt Request Bit 15           GPIO3         BROE Interrupt Request Bit 15           GPIO3         Transmit Data to 32KBaud MIDI UART Port           TXD         10 Transmit Data to 32KBaud MIDI UART Port           TXD         10 Transmit Data to 32KBaud MIDI UART Port           GPIO3	_	5	3D Depth Filter/Node 1A	
CAP3D2B				
ISA Bus Signals		2	· ·	
IOW#	CAP3D2B	84	3D Depth Filter/Node 2B	
IOR#   50	ISA Bus Signa	als		
AEN         51         DMA Address Enable           RESET         57         System Reset Input           SA[15:0]         13:16, 83:72         System Address Bus Lines 15           SD[7:0]         71:68, 65:62         System Data Bus Lines 7 through 0           DACK0#         46         8-Bit DMA Acknowledge Bits 0, 1, and 3           DACK3#         48         BBIT DMA Request Bits 0, 1, and 3           DRQ0         59         8-Bit DMA Request Bits 0, 1, and 3           DRQ1         60         DRQ3           DRQ3         61         External EEPROM Enable Input           IRO5         54         Interrupt Request Bits 5, 7, and 9           IRQ7         55         Interrupt Request Bits 5, 7, and 9           IRQ10         53         through 11: IRQ7 and IRQ9-11 are bidirectional for WSS auto interrupt determination.           IRQ15         42         Interrupt Request Bits 15           GPIO3         42         Interrupt Request Bit 15         External Serial EPROM Clock	IOW#	49	I/O Write Command	
RESET   57   System Reset Input	IOR#	50	I/O Read Command	
SA[15:0]	AEN	51	DMA Address Enable	
S3:72	RESET	57	System Reset Input	
DACK0#	SA[15:0]	-	, ,	
DACK1# DACK3#         47 A8         and 3           DRQ0 DRQ1 60 DRQ3 61         59 BBI DMA Request Bits 0, 1, and 3           GPIO0 43 61         43 General Purpose I/O Bit 0 External EEPROM Enable Input           IRQ5 IRQ7 55 through 11: IRQ7 and IRQ9 15 through 11: IRQ7 and IRQ9-11 are bidirectional for WSS auto interrupt determination.           IRQ10 53 IRQ11 52         42 Interrupt Request Bit 15 General Purpose I/O Bit 3           MIDI Interface         Faceive Data from 32KBaud MIDI UART Port           TXD 9 Receive Data from 32KBaud MIDI UART Port         Transmit Data to 32KBaud MIDI UART Port           TXD 10 Transmit Data to 32KBaud MIDI UART Port         External Preserve Data Interface           ROMCS 12 External Serial EEPROM Chip Select PNP Mode Enable Jumper Bit General Purpose I/O Bit 1         933 Mode Configuration Bit 0           GA2 35 IDE CA2 External Serial EEPROM Clock IDE Disable         IDE Disable           CA1 36 IDE CA1 External Serial EEPROM Data Out         External Serial EEPROM Data In           CA0 37 IDE CA0 External Serial EEPROM Data In         External Serial EEPROM Data In           IDECS1# 38 IDE CD-ROM Chip Select Bit 1         IDE CA-ROM Chip Select Bit 3           IDEIRQ 41 IDE CD-ROM Interrupt General Purpose I/O Bit 2         General Purpose I/O Bit 2           RESET# 34 Buffered Reset (active low)         CD Output Enable	SD[7:0]	,	System Data Bus Lines 7 through 0	
DACK3#         48           DRQ0         59         8-Bit DMA Request Bits 0, 1, and 3           DRQ1         60         DRQ3         61           GPIO0         43         General Purpose I/O Bit 0           EXTROM#         External EEPROM Enable Input           IRQ5         54         Interrupt Request Bits 5, 7, and 9 through 11: IRQ7 and IRQ9-11 are bidirectional for WSS auto interrupt determination.           IRQ10         53         IRQ11         52           IRQ15         42         Interrupt Request Bit 15           GPIO3         General Purpose I/O Bit 3           MIDI Interface           RXD         9         Receive Data from 32KBaud MIDI UART Port           External Preserve Data from 32KBaud MIDI UART Port           External Port EEPROM and IDE CD-ROM Interface           ROMCS         12         External Serial EEPROM Chip Select           PNPEN         PNP Mode Enable Jumper Bit           GPIO1         11         General Purpose I/O Bit 1           MODE0         35         IDE CA2           ROMCLK         IDE Disable           GA1         36         IDE CA2           ROMDIN         External Serial EEPROM Data Out           CA0         37         ID		_		
DRQ0			and 3	
DRQ1 DRQ3         60 61           GPIO0         43         General Purpose I/O Bit 0           EXTROM#         External EEPROM Enable Input           IRQ5         54 Interrupt Request Bits 5, 7, and 9 through 11: IRQ7 and IRQ9-11 are bidirectional for WSS auto interrupt determination.           IRQ10         53 IRQ11         52           IRQ15         42 Interrupt Request Bit 15         General Purpose I/O Bit 3           MIDI Interface           RXD         9         Receive Data from 32KBaud MIDI UART Port           TXD         10         Transmit Data to 32KBaud MIDI UART Port           External PnP EEPROM and IDE CD-ROM Interface           ROMCS         12         External Serial EEPROM Chip Select           PNPEN         PNP Mode Enable Jumper Bit           GPIO1         11         General Purpose I/O Bit 1           MODE0         35         IDE CA2           ROMCLK         External Serial EEPROM Clock           IDEDIS#         IDE Disable           CA1         36         IDE CA1           ROMDOUT         External Serial EEPROM Data Out           CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip S				
DRQ3         61           GPIO0         43         General Purpose I/O Bit 0           EXTROM#         External EEPROM Enable Input           IRQ5         54         Interrupt Request Bits 5, 7, and 9           IRQ7         55         through 11: IRQ7 and IRQ9-11 are bidirectional for WSS auto interrupt determination.           IRQ10         53         IRQ11         52           IRQ15         42         Interrupt Request Bit 15         General Purpose I/O Bit 3           MIDI Interface           RXD         9         Receive Data from 32KBaud MIDI UART Port           TXD         10         Transmit Data to 32KBaud MIDI UART Port           External Propose I/O Bit 3           External Propose I/O Bit 3           BOMCS         12         External Serial EEPROM Chip Select           PNPEN         External Serial EEPROM Chip Select           PNPEN         933 Mode Configuration Bit 0           GA2         35         IDE CA2           ROMCLK         IDE Disable           CA1         36         IDE CA2           ROMDOUT         External Serial EEPROM Data Out           CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Chip Select Bit 1 </td <td>· ·</td> <td></td> <td>8-Bit DMA Request Bits 0, 1, and 3</td>	· ·		8-Bit DMA Request Bits 0, 1, and 3	
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External EEPROM Enable Input			General Purpose I/O Pit 0	
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IRQ7         55         through 11: IRQ7 and IRQ9-11 are bidirectional for WSS auto interrupt determination.           IRQ10         53         IRQ11         52           IRQ15         42         Interrupt Request Bit 15         General Purpose I/O Bit 3           MIDI Interface           RXD         9         Receive Data from 32KBaud MIDI UART Port           TXD         10         Transmit Data to 32KBaud MIDI UART Port           External PnP EEPROM and IDE CD-ROM Interface           ROMCS         12         External Serial EEPROM Chip Select PNP Mode Enable Jumper Bit           GPIO1         11         General Purpose I/O Bit 1           MODE0         933 Mode Configuration Bit 0           CA2         35         IDE CA2           ROMCLK         IDE Disable           CA1         36         IDE CA1           ROMDOUT         External Serial EEPROM Data Out           CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip Select Bit 1           IDECS3#         39         IDE CD-ROM Chip Select Bit 3           IDEIRQ         41         IDE CD-ROM Interrupt           General Purpose I/O Bit 2         General P		F 4	·	
IRQ9         56 IRQ10         bidirectional for WSS auto interrupt determination.           IRQ11         52         Interrupt Request Bit 15           IRQ15         42         Interrupt Request Bit 15           GPIO3         Feceive Data from 32KBaud MIDI UART Port           TXD         10         Transmit Data to 32KBaud MIDI UART Port           External PnP EEPROM and IDE CD-ROM Interface         External Serial EEPROM Chip Select           ROMCS         12         External Serial EEPROM Chip Select           PNPEN         PNP Mode Enable Jumper Bit           GPIO1         11         General Purpose I/O Bit 1           933 Mode Configuration Bit 0         OCA2           ROMCLK         IDE CA2           ROMCLK         IDE Disable           CA1         36         IDE CA1           ROMDOUT         External Serial EEPROM Data Out           CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip Select Bit 1           IDECS3#         39         IDE CD-ROM Chip Select Bit 3           IDEIRQ         41         IDE CD-ROM Interrupt           General Purpose I/O Bit 2         General Purpose I/O Bit 2           RESET#				
IRQ10 IRQ11         53 52         determination.           IRQ15 GPIO3         42 Interrupt Request Bit 15 General Purpose I/O Bit 3           MIDI Interface           RXD         9 Receive Data from 32KBaud MIDI UART Port           TXD         10 Transmit Data to 32KBaud MIDI UART Port           External PnP EEPROM and IDE CD-ROM Interface           ROMCS         12 External Serial EEPROM Chip Select PNP Mode Enable Jumper Bit           GPIO1         11 General Purpose I/O Bit 1 933 Mode Configuration Bit 0           CA2         35 IDE CA2 External Serial EEPROM Clock IDE Disable           CA1         36 IDE CA1 External Serial EEPROM Data Out           CA0         37 IDE CA0 External Serial EEPROM Data In           IDECS1#         38 IDE CD-ROM Chip Select Bit 1           IDECS3#         39 IDE CD-ROM Chip Select Bit 3           IDEIRQ         41 IDE CD-ROM Interrupt General Purpose I/O Bit 2           RESET#         34 Buffered Reset (active low)           CDOE#         44 CD Output Enable			_	
IRQ15         42         Interrupt Request Bit 15           GPIO3         9         Receive Data from 32KBaud MIDI UART Port           TXD         10         Transmit Data to 32KBaud MIDI UART Port           External PnP EEPROM and IDE CD-ROM Interface         ROMCS         12         External Serial EEPROM Chip Select PNPEN Mode Enable Jumper Bit           GPIO1         11         General Purpose I/O Bit 1 933 Mode Configuration Bit 0           CA2         35         IDE CA2 External Serial EEPROM Clock IDE Disable           CA1         36         IDE CA1 External Serial EEPROM Data Out           CA0         37         IDE CA0 External Serial EEPROM Data In           IDECS1#         38         IDE CA0 External Serial EEPROM Data In           IDECS3#         39         IDE CD-ROM Chip Select Bit 1           IDEIRQ         41         IDE CD-ROM Interrupt General Purpose I/O Bit 2           RESET#         34         Buffered Reset (active low)           CDOE#         44         CD Output Enable				
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RXD 9 Receive Data from 32KBaud MIDI UART Port  TXD 10 Transmit Data to 32KBaud MIDI UART Port  External PnP EEPROM and IDE CD-ROM Interface  ROMCS 12 External Serial EEPROM Chip Select PNPEN PNP Mode Enable Jumper Bit  GPIO1 11 General Purpose I/O Bit 1 933 Mode Configuration Bit 0  CA2 35 IDE CA2  ROMCLK IDE Disable  CA1 36 IDE CA1  External Serial EEPROM Clock IDE Disable  CA0 37 IDE CA0  External Serial EEPROM Data Out  CA0 37 IDE CA0  External Serial EEPROM Data In  IDECS1# 38 IDE CD-ROM Chip Select Bit 1  IDECS3# 39 IDE CD-ROM Chip Select Bit 3  IDEIRQ 41 IDE CD-ROM Interrupt  GPIO2  RESET# 34 Buffered Reset (active low)  CDOE# 44 CD Output Enable	GPIO3		General Purpose I/O Bit 3	
UART Port	MIDI Interface			
UART Port	RXD	9		
ROMCS         12         External Serial EEPROM Chip Select           PNPEN         PNP Mode Enable Jumper Bit           GPIO1         11         General Purpose I/O Bit 1           MODE0         933 Mode Configuration Bit 0           CA2         35         IDE CA2           ROMCLK         External Serial EEPROM Clock           IDEDIS#         IDE Disable           CA1         36         IDE CA1           ROMDOUT         External Serial EEPROM Data Out           CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip Select Bit 1           IDECS3#         39         IDE CD-ROM Chip Select Bit 3           IDEIRQ         41         IDE CD-ROM Interrupt           General Purpose I/O Bit 2         RESET#         34         Buffered Reset (active low)           CDOE#         44         CD Output Enable	TXD	10		
PNPEN         PNP Mode Enable Jumper Bit           GPIO1         11         General Purpose I/O Bit 1           MODE0         933 Mode Configuration Bit 0           CA2         35         IDE CA2           ROMCLK         External Serial EEPROM Clock           IDEDIS#         IDE Disable           CA1         36         IDE CA1           ROMDOUT         External Serial EEPROM Data Out           CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip Select Bit 1           IDECS3#         39         IDE CD-ROM Chip Select Bit 3           IDEIRQ         41         IDE CD-ROM Interrupt           GPIO2         General Purpose I/O Bit 2           RESET#         34         Buffered Reset (active low)           CDOE#         44         CD Output Enable	External PnP EEPROM and IDE CD-ROM Interface			
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CA2         35         IDE CA2           ROMCLK         External Serial EEPROM Clock           IDEDIS#         IDE Disable           CA1         36         IDE CA1           ROMDOUT         External Serial EEPROM Data Out           CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip Select Bit 1           IDECS3#         39         IDE CD-ROM Chip Select Bit 3           IDEIRQ         41         IDE CD-ROM Interrupt           GPIO2         General Purpose I/O Bit 2           RESET#         34         Buffered Reset (active low)           CDOE#         44         CD Output Enable	GPIO1	11	General Purpose I/O Bit 1	
ROMCLK         External Serial EEPROM Clock           IDEDIS#         IDE Disable           CA1         36         IDE CA1           ROMDOUT         External Serial EEPROM Data Out           CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip Select Bit 1           IDECS3#         39         IDE CD-ROM Chip Select Bit 3           IDEIRQ         41         IDE CD-ROM Interrupt           GPIO2         General Purpose I/O Bit 2           RESET#         34         Buffered Reset (active low)           CDOE#         44         CD Output Enable	MODE0		933 Mode Configuration Bit 0	
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CA1         36         IDE CA1           ROMDOUT         External Serial EEPROM Data Out           CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip Select Bit 1           IDECS3#         39         IDE CD-ROM Chip Select Bit 3           IDEIRQ         41         IDE CD-ROM Interrupt           GPIO2         General Purpose I/O Bit 2           RESET#         34         Buffered Reset (active low)           CDOE#         44         CD Output Enable	ROMCLK		External Serial EEPROM Clock	
External Serial EEPROM Data Out           CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip Select Bit 1           IDECS3#         39         IDE CD-ROM Chip Select Bit 3           IDEIRQ         41         IDE CD-ROM Interrupt           GPIO2         General Purpose I/O Bit 2           RESET#         34         Buffered Reset (active low)           CDOE#         44         CD Output Enable	IDEDIS#		IDE Disable	
CA0         37         IDE CA0           ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip Select Bit 1           IDECS3#         39         IDE CD-ROM Chip Select Bit 3           IDEIRQ         41         IDE CD-ROM Interrupt           GPIO2         General Purpose I/O Bit 2           RESET#         34         Buffered Reset (active low)           CDOE#         44         CD Output Enable	CA1	36	IDE CA1	
ROMDIN         External Serial EEPROM Data In           IDECS1#         38         IDE CD-ROM Chip Select Bit 1           IDECS3#         39         IDE CD-ROM Chip Select Bit 3           IDEIRQ         41         IDE CD-ROM Interrupt           GPIO2         General Purpose I/O Bit 2           RESET#         34         Buffered Reset (active low)           CDOE#         44         CD Output Enable	ROMDOUT		External Serial EEPROM Data Out	
IDECS1# 38   IDE CD-ROM Chip Select Bit 1     IDECS3# 39   IDE CD-ROM Chip Select Bit 3     IDEIRQ 41   IDE CD-ROM Interrupt     GPIO2   General Purpose I/O Bit 2     RESET# 34   Buffered Reset (active low)     CDOE# 44   CD Output Enable	CA0	37	IDE CA0	
IDECS3# 39   IDE CD-ROM Chip Select Bit 3     IDEIRQ	ROMDIN		External Serial EEPROM Data In	
IDEIRQ	IDECS1#	38	IDE CD-ROM Chip Select Bit 1	
GPIO2 General Purpose I/O Bit 2  RESET# 34 Buffered Reset (active low)  CDOE# 44 CD Output Enable	IDECS3#	39	IDE CD-ROM Chip Select Bit 3	
RESET# 34 Buffered Reset (active low) CDOE# 44 CD Output Enable	IDEIRQ	41	IDE CD-ROM Interrupt	
CDOE# 44 CD Output Enable	GPIO2		General Purpose I/O Bit 2	
·	RESET#	34	Buffered Reset (active low)	
CDHOE# 45 CD High Output Enable	CDOE#	44	CD Output Enable	
	CDHOE#	45	CD High Output Enable	

# Signal Description (cont.)

Signal Name	Pin	Signal Description	
XIOR#	32	IDE Buffered IOR#	
XIOW#	33	IDE Buffered IOW#	
Game Port and Serial Audio Interface			
GD7	31	Game Port 2 Data Line 7	
MODEMCS#		Modem Chip Select	
MODEM#		Modem Interface Enable Input	
VOLUP		Volume Up	
GD6	30	Game Port 2 Data Line 6	
MODEMINT		Modem Interrupt	
VOLDWN		Volume Down	
GD5	29	Game Port 1 Data Line 5	
VOLUP		Volume Up	
GD4	28	Game Port 1 Data Line 4	
VOLDWN		Volume Down	
GD3	26	Game Port 2 Data Line 3	
IRQ4		Interrupt Request Bit 4	
GD2	25	Game Port 2 Data Line 2	
IRQ3		Interrupt Request Bit 2	
GD1	24	Game Port 1 Data Line 1	
GD0	23	Game Port 1 Data Line 0	
Codec/Mixer Interface			
MICL	97	Microphone Input Left	
MICR	98	Microphone Input Right	
LINEL	96	Line Input Left	
LINER	99	Line Input Right	
CDL	95	CD Input Left	
CDR	100	CD Input Right	
AUXL	94	Auxiliary Input Left	
AUXR	1	Auxiliary Input Right	
OUTL	92	Output Left	
OUTR	93	Output Right	
MIXOUTL	91	Mixer Output Left	
MIXOUTR	89	Mixer Output Right	
CINL	90	ADC Filter Pin Left	
CINR	88	ADC Filter Pin Right	
VREF	86	Voltage Reference	
OSCI	7	Oscillator Input: 14.318MHz	
OSCO	8	Oscillator Output	
Serial Audio Interface Signals			
SADI	19	Serial Audio Data Input	
SADO	20	Serial Audio Data Output	
SCLK	21	Serial Audio Clock	
FSYNC	22	Serial Audio Synchronization	
Power and Ground			
VCC	18, 58, 67	Power Connection	
GND	17, 27, 40, 66	Ground Connection	
AVCC	3, 87	Analog Power Connection	
AGND	4, 85	Analog Ground Connection	
		<u> </u>	



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